

OIL ANALYSIS REPORT

Sample Rating Trend



Wampler Ridge 4

Natural Gas Engine Fluid PETRO CANADA SENTRON LD 3000 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

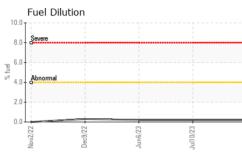
Fluid Condition

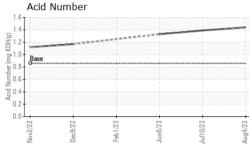
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

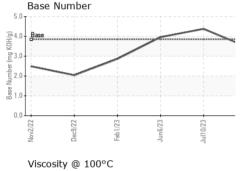
~=)		Nov2022	Dec2022 Feb2023	Jun2023 Jul2023	Aug2023	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0091316	PCA0092171	PCA0092164
Sample Date		Client Info		04 Aug 2023	10 Jul 2023	06 Jun 2023
Machine Age	hrs	Client Info		122146	121545	120715
Oil Age	hrs	Client Info		32007	31406	15438
Oil Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	5	6	5
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	1	2	<1
Lead	ppm	ASTM D5185m	>30	12	8	4
Copper	ppm	ASTM D5185m	>35	2	1	2
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0	0	0
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	2	2	2	2
Manganese	ppm	ASTM D5185m	1	<1	<1	<1
Magnesium	ppm	ASTM D5185m	5	20	17	18
Calcium	ppm	ASTM D5185m	1220	1616	1531	1495
Phosphorus	ppm	ASTM D5185m	298	346	330	330
Zinc	ppm	ASTM D5185m	350	419	422	422
Sulfur	ppm	ASTM D5185m	1995	2919	3046	2956
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	5	1	1
Sodium	ppm	ASTM D5185m		2	1	<1
Potassium	ppm	ASTM D5185m	>20	1	0	<1
Fuel	%	ASTM D3524	>4.0	0.2	0.2	0.2
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0	0	0
Nitration	Abs/cm	*ASTM D7624	>20	5.7	5.7	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	18.4	18.6
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.3	13.3	12.9
Acid Number (AN)	mg KOH/g	ASTM D8045	0.86	1.44	1.39	1.33
Base Number (BN)	mg KOH/g	ASTM D2896	3.85	3.47	4.38	3.96

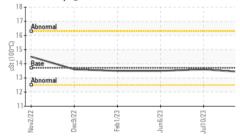


OIL ANALYSIS REPORT









	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jul10/23 Aug4/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.1	NEG	NEG	NEG
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	13.7	13.4	13.6	13.5
	GRAPHS						
	Iron (ppm)			-	Lead (ppm)		
	100 Severe			6	0		······
Jul10/23 Aug4/23	80			4	i i		
nL IA	⁶⁰ Abnormal			<u></u> <u>a</u> 3	0 - Abnormal		-
	40-			2			
	20			1	-		
	Nov2/22 +	Jun6/23 +	Jul10/23 -	Aug4/23 +	Nov2/22 +	Feb1/23 + Jun6/23 +	Jul10/23 - Aug4/23 +
		٦h	Jul	Au		,	Jul Au
	Aluminum (ppm)				Chromium (p	ipm)	
	15 - Severe				Severe		
Jul10/23	and the second s			mdd	4 - 0	1 I 1 I	1 1 1 1
- Inc	5 -				2		
				-			
	Nov2/22 Dec9/22 Feb1/23	Jun6/23	Jul10/23	Aug4/23	Nov2/22 Dec9/22	Feb1/23 Jun6/23	Jul10/23 - Aug4/23 -
		ت ب	Ju	A			Ju Au
	Copper (ppm)			20	Silicon (ppm)		
	Severe			15	0		
	abnormal	1		튭 10	0 - 0	I I I I	1 I
~	20-			5	D -		
Jul1 0/23			~				
7	Nov2/22 Dec9/22 Feb1/23	Jun6/23	Jul10/23	Aug4/23	Nov2/22	Feb1/23 Jun6/23	Jul10/23
	– Viscosity @ 100°C			~	Base Number		7 4
	18 T				°T :		
Ŧ	16 - Abnormal			HOY B	0 - Base		
1000	16 - 6 14 - Base 3 Abnormal			<u>ட</u> ் 3. க	0		
ć	Abnormal			f 2.	0		
				(b) HOX (b) HOX (b) HOX (b) HOX (c) HO	0		
		23-	23		0	23	23
	Nov2/22 Dec9/22 Feb1/23	Jun6/23	Jul10/23	Aug4/23	Nov2/22 Dec9/22	Feb1/23 Jun6/23	Jul10/23 Aug4/23
Laboratory	: WearCheck USA - 5	01 Made				EST OPERATING -	
Laboratory Sample No.		Received		ary, NC 27513 Aug 2023			OUNTS RIDGE
Lab Number	: 05922905	Diagnos	ed : 15 /	Aug 2023			DANTE, VA



Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Diagnostician : Don Baldridge

Unique Number : 10602852

Submitted By: Lee Hammons

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